

REMARKS

Applicants respectfully request that the above-identified application be re-examined.

The final Office Action mailed on July 29, 2003 ("Office Action"), rejected all of the claims (1-28) of this application. Claims 1-28 were rejected under 35 U.S.C. § 103(a) as being unpatentable over the teachings of U.S. Patent No. 5,822,539 ("van Hoff") taken in view of the teachings of U.S. Patent No. 6,332,144 ("deVries") taken further in view of the teachings of U.S. Patent No. 6,289,362 ("Van Der Meer"). While applicants respectfully disagree with the foregoing rejection, in order to advance the prosecution of this application, independent Claims 1, 10, and 25-27 have been amended in order to more particularly point out and distinctly claim the subject matter applicants regard as their invention. Applicants respectfully submit that the rejection of Claims 1-28, particularly as amended, is in error, should be withdrawn, and this application allowed.

Prior to discussing the reasons why applicants believe that all of the claims in this application are allowable, a brief discussion of the present invention, followed by a brief discussion of the cited and applied references, is presented. The following discussions of applicants' invention and the cited and applied references are not provided to define the scope or interpretation of any of the claims of this application. Instead, these discussions are provided to help the United States Patent and Trademark Office better appreciate important claim distinctions discussed thereafter.

Summary of the Invention

The present invention addresses one of the shortcomings of previous forms of providing content by providing a scalable computing system that associates annotations with content sources. The annotations are stored on the servers of the highest order tiers of a multiple-tier hierarchical annotation server system wherein each higher tier server includes more annotation information than lower tier servers.

An exemplary system embodying the invention includes one or more tier III servers for storing annotations associated with one or more content sources. The annotations stored on the tier III server are indexed on one or more tier II servers. In turn, the location of the index is stored on one or more tier I servers. Inquiries sent to the tier I server identify a relevant tier II server or servers and the tier II server or servers identify a relevant tier III server or servers. Obviously, embodiments of the invention can include more than three tiers of servers, three being the minimum. In the three-tier embodiment, tier I servers are rapid access servers that, in

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response to the receipt of a document identifier, quickly advise a user if annotations exist for a content source and the location of an index of such annotations. The tier II servers store the indices and, in response to a user inquiring, provide index information, which identifies the tier III servers storing the annotations.

As can be seen from the above description, the present invention provides multiple tiers of servers that progressively provide more specific information about an annotation (or annotations) associated with a particular content source. It will further be appreciated by those of ordinary skill in the art and others that a multiple-tier annotation server system is readily scalable because of its nodal nature. The nodal nature allows each tier level to be expanded (or contracted) as required without requiring that other tiers be simultaneously expanded (or contracted). A multiple-tier annotation system allows frequently accessed lower tiers of servers to provide minimal information and, in effect, filter access to less frequently accessed higher tiers that provide more information. In the example described above, a tier I server can point to a plurality of tier II servers for indexed information about annotations and each tier II server in turn can point to one or more tier III servers where the annotations are located. Such a system distributes both the bandwidth processing and memory loads associated with obtaining progressively more detailed information. Additionally, as noted above, each tier can be expanded as processing loads increase to provide an efficient increase in processing power, without disturbing the overall multiple-tier server system, making the system readily scalable. Expansion can occur by changing capacity on a tier level by either changing the capacity of a single server if a tier is formed by a single server, or by changing the number of servers forming a tier if a tier is formed by multiple servers.

The invention is also directed to posting an annotation on a multiple-tier annotation system. A client sends an annotation post to a tier III server that saves a portion of the annotation post and sends a second portion to a tier II server. The tier II server stores the second portion and sends association information for the annotation to a tier I server. Storing a hierarchy of annotation information on multiple tiers of servers allows queries of the multiple-tier annotation system to be performed more efficiently. In such a system, while lower tier servers get more queries, they also process less information. Thus, query response time is reduced. Higher tier servers, which process more information, get fewer queries since the lower tier servers act as filters for the higher tier servers.

Summary of the Cited and Applied References

The van Hoff Reference (U.S. Patent No. 5,822,539)

Van Hoff provides a client-side system and method for inserting hypertext links ("hyperlinks") to annotations into documents. Each document is viewable on a client computer having a browser configured to request and receive documents over the network.

The hyperlinks of van Hoff are inserted into a document by an annotation proxy, which in van Hoff is a software procedure on a single computer (either a client or a separate computer) configured to insert hyperlinks to annotations into a document. Identifying where hyperlinks to annotations should be inserted into a document is based on matching a group of characters in the document to a group of character strings in one or more dictionaries of cross-references. The hyperlinks are added to the document regardless of any document identifier. Neither the hyperlink, nor the annotation associated with the hyperlink, includes a document identifier, i.e., an identifier that identifies the document into which the hyperlink is to be inserted. The annotation proxy relays the annotated document to the browser, which ultimately displays the merged document.

In addition, nowhere does van Hoff teach a multi-tiered server, much less a multiple-tier hierarchical annotation server system of the type contemplated by this invention. All annotations are stored on a client computer or similar device. Information about annotations are not stored on the servers of a multiple-tier hierarchical annotation server system. Thus, van Hoff does not provide a readily scalable system. In order to "scale" von Hoff, a larger (or smaller) computer is required. In contrast, as noted above, the multi-tier system of the invention does not require that the entire system be changed in order to be scaled. Rather, components of the system, i.e., tier servers, can be increased or decreased in size or number as needs change.

The Van Der Meer Reference (U.S. Patent No. 6,289,362)

Van Der Meer provides a system and method for presenting an ordered set of network object links to documents. The network object links are called annotated universal addresses ("AUAs"). The AUAs are presentable by a browser, much like a list of bookmarks. The AUAs are maintained in an AUA database. The content of the AUA database is presented to a user within a presentation context. Van Der Meer purportedly allows the user to select a different presentation context without affecting the contents of the AUA database. One type of presentation context is organized like a diary or agenda.

Van Der Meer uses the word "annotation" to describe the configuration data that describes the properties of an AUA, such as expiration data, re-exportation data, link data, suggested section in which to store AUA, natural size of the object, description of the object,

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privacy level, type of object, etc. (See Col. 6, l. 58 through Col. 7, l. 14.) These properties (configuration data) are not the same as the annotations of either van Hoff, deVries or the present invention. Annotations, as used in both van Hoff and deVries and in the present invention describe information that adds to the understanding of a related content source, e.g., a document. Annotations do not describe or relate to configuration data type properties of an AUA. While van Hoff and deVries do employ hyperlinks to annotations, and the present invention does store information about annotations (which could employ configuration data), annotations are used in an entirely different sense than in Van Der Meer. In applicants' view, Van Der Meer misuses the word annotation; see the attached copy of page 87 of Webster's Third New Dictionary, copyright 1993.

The system of Van Der Meer comprises an AUA database server, a presentation context server, an owner system, and content providers. Each content provider includes descriptions of presentable objects and AUAs that identify the location of the objects. The content providers also include "annotations" for controlling aspects of the objects. The AUA database and presentation context server maintain the AUAs in a per user AUA database. The AUA database allows an owner to access the AUAs for presentation. Since the content providers include the AUA annotations, the content providers have control over certain aspects of the objects as they are presented to the owner and any other user.

Nowhere does Van Der Meer teach or suggest the present invention. Van Der Meer provides a way of presenting network object links. The network object links or AUAs of Van Der Meer are objects with configuration data that describe features of the objects, called "annotations." The annotations of Van Der Meer are configuration data that describe properties of the network object links (Fig. 3 and Col. 6, l. 58 through Col. 7, l. 14). The annotations associated with Van Der Meer AUAs are not annotations of the type contemplated by the present invention. Rather, Van Der Meer's annotations are configuration data that "indicate how to handle some aspect of the object information 132 or the universal address 305" (Col. 6, ll. 59-60).

Like van Hoff, Van Der Meer does not disclose a multiple-tier, readily scalable system, much less a multiple-tier hierarchical annotation system of the type contemplated by the present invention.

The deVries et al. Reference (U.S. Patent No. 6,332,144)

The deVries reference provides a multimedia annotation system in a networked environment. The annotation system of deVries includes a number of servers (a librarian, an index database server, a media database server, etc.). Similar to van Hoff, deVries provides for

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online annotations to online information, but unlike van Hoff it does not provide for annotating documents. Specifically, deVries is directed to annotating digital video and/or audio streams in an online environment. DeVries has no provision for increased loads due to potentially vast numbers of annotations or Web pages. As with van Hoff, deVries does not disclose a scalable multiple-tier computing system, much less a multiple-tier hierarchical annotation system of the type contemplated by the present invention.

The Claims Distinguished

The Office Action has failed to show, and the applicants are unable to find, where any of the cited and applied references, either alone or in combination, disclose, teach or suggest the subject matter of the claimed invention. Among other differences, none of the cited and applied references teaches, discloses, or suggests storing annotations on the servers of a higher tier and information about annotations on the servers of lower tiers of a multiple-tier hierarchical annotation system. As noted above, neither van Hoff, deVries, nor Van Der Meer provides readily scalable systems, much less scalable systems employing multi-tier hierarchical annotation servers of the type contemplated by this invention. As discussed more fully below, Claims 1-28 clearly recite scalable methods, computer readable media, or computing systems not taught or even remotely suggested by van Hoff, deVries or Van Der Meer, taken alone or in combination.

Prior to discussing in detail the reasons why applicants believe that the claims of this application, particularly as amended, are clearly allowable, attention is again directed to the law relating to combinations of references, which was discussed in the response to the last Office Action but not addressed in the final Office Action.

The Office Action recognizes that van Hoff, deVries, and Van Der Meer alone fail to teach all of the elements of Claims 1-28. The Office Action makes various assertions (discussed in detail below) that it would be obvious to one of ordinary skill in the art to combine the teaching of van Hoff, deVries, and Van Der Meer. Without addressing the accuracy of individual assertions here, applicants submit that the **assertions** in the Office Action **regarding the obviousness** of combining the teachings of the cited references **are based on impermissible hindsight construction of the claimed invention**. Van Hoff is directed to HTML-based systems for processing online document annotations. DeVries is directed to video/audio annotation systems with specific servers for annotation handling audio/video annotation processing and indexing in an online environment. Applicants submit that one of ordinary skill in the art would not be motivated to combine the text-based annotation of van Hoff with streaming audio/video annotation of deVries. These are separate technologies with little in

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common other than a similarity in both having non-scalable client-server environments. Still further, as discussed above, the "annotations" of Van Der Meer are not the contextual annotations of van Hoff or deVries or even of the present invention. Applicants submit that one of ordinary skill in the art would have been even less motivated to combine the Van Der Meer system with van Hoff and deVries as Van Der Meer applies to a wholly inapposite type of data not even properly characterized as annotations. Accordingly, applicants submit that there is no motivation for one of ordinary skill in the art to combine the teaching of these references.

Applicants submit that **the rejections of Claims 1-28 are predicated on combining prior art references that contain no teaching or suggestion contained in the references** of how the teachings of the cited references could be combined in any manner, much less the manner recited in the rejected claims. The claimed subject matter is taught only by the present application, not by the references. The Office Action fails to point out any teaching or suggestion in the references related to the desirability of combining their individual teachings. The rejections use hindsight reasoning based on the present disclosure to "produce" the claimed invention. Nor is there any obvious or apparent reason for combining the teachings of such disparate references. The references do not teach or suggest how they could be combined in any manner, much less the manner recited in the rejected independent claims (1, 10, 22-24, and 25). In this regard, attention is directed to the following Federal Circuit and C.C.P.A. decisions:

The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 U.S.P.Q.2d 1438, (Fed. Cir. 1991).

It is wrong to use the patent in suit as a guide through the maze of prior art references, combining the right references in the right way so as to achieve the result of the claims in suit. Monday morning quarterbacking is quite improper when resolving the question of nonobviousness in a court of law. *Orthopedic Equipment, Inc. v. United States*, 217 U.S.P.Q. 193, 199 (Fed. Cir. 1983).

Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion supporting the combination. Under Section 103, teachings of references can be combined **only** if there is some suggestion or incentive to do so. *ACS Hospital Systems, Inc. v. Montefiore Hospital*, 221 U.S.P.Q. 929, 933 (Fed. Cir. 1984). (Emphasis added.)

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The *ACS Hospital Systems, Inc. v. Montefiore Hospital* decision has been cited with approval by the Federal Circuit. See *In re Geiger*, 2 U.S.P.Q. 2d 1276, 1278 (Fed. Cir. 1987). Similar statements have been made in many decisions of the Board of Appeals.

Nor do we see any suggestion in either of the references which would lead anyone having ordinary skill in the art to combine the structure taught by either reference with that taught by the other.

In order to justify a combination of references such as is here suggested it is necessary not only that it be physically possible to combine them, but the art should contain something to suggest the desirability of doing so. Since the art does not suggest the use of either of the patented devices for . . . there is nothing to indicate that one should be modified in view of the other for that purpose. *Ex parte Walker*, 135 U.S.P.Q. 195, 196 (Bd. App. 1962).

We have studied the references and the manner in which the examiner proposes to combine their teachings but we are unable to find in these references any suggestion that they should or could be combined, absent appellant's disclosure in the present application. *Ex parte Lennox*, 144 U.S.P.Q. 224, 225 (Bd. App. 1964).

While as an abstract proposition it might be possible to select features from the secondary references, as the examiner has done, and mechanically combine them with the Mallin device to arrive at appellant's claimed combination, we find absolutely no basis for making such combination neither disclosed nor suggested in the patents relied upon. **In our view only appellant's specification suggests any reasons for combining the features of the secondary references with the primary reference and under the provisions of 35 U.S.C. 103 that does not constitute a bar.** *Ex parte Fleischmann*, 157 U.S.P.Q. 155 (Bd. App. 1967). (Emphasis added.)

In the instant application, the examiner has done little more than cite references to show that one or more elements or subcombinations thereof, when each is viewed in a vacuum, is known. The claimed invention, however, is clearly directed to a combination of elements. That is to say, appellant does not claim that he has invented one or more new elements but has presented claims to a new combination of elements. **To support the conclusion that the claimed combination is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed combination or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of**

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the references. *Ex parte Clapp*, 227 U.S.P.Q. 972, 973 (Bd. App. 1985).
(Emphasis added.)

In summary, as discussed more fully below, Claims 1-28 are clearly allowable in view of a lack of teaching or suggestion in the cited and applied references (or any obvious reason) of how they could be combined in any manner, much less in the manner recited in these claims. The broad statements in the Office Action, such as "in order to provide an efficient searching, browsing, and retrieving annotating media in a data processing network environment" (page 3), "to determine if the requested data is available which will advantageously enable content provider to target more appropriate users with advertisements and maintain control of objects displayed at the user's diary" (pages 3 and 4), and "in order to provide an efficient searching, browsing, and retrieving annotating media in a data processing network environment" (page 4) are not teachings or suggestions of the type required by the foregoing decisions. They are merely a listing of desirable results. Improvements in efficiency, etc., are the desired results of many inventions. However, the fact that a result is desirable is not a teaching or suggestion of how the result can be achieved. Furthermore, even if the references were combinable in the manner discussed in the remarks accompanying the rejection of these claims, which applicants specifically deny, the resultant combination would not meet all of the recitations of the claims, as discussed below.

Rejection of Claims 1-9 Under 35 U.S.C. § 103(a)

Claim 1, as amended, reads as follows:

1. A computing system for scalably managing annotations, the computing system comprising:

a tier III server for storing annotations;

a tier II server for storing an index of the annotations stored on the tier III server, but not the annotations, that is separate and distinct from the tier III server; and

a tier I server for determining if a content source has an index of the annotations stored on the tier II server that is separate and distinct from the tier II and tier III servers.

The multiple tiers of the computing system recited in Claim 1 provide an easily scalable way of retrieving annotation information. In contrast, the single device annotation proxy in van Hoff is not easily scalable. More importantly, van Hoff also fails to teach a tier I server that responds in the manner recited in Claim 1. Claim 1 recites a separate and distinct tier I server for "determining if a content source has an index of the annotations stored on the tier II server."

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Using a tier I server to make such a determination allows the tier I server to be lightweight and suitable for quickly responding to many requests for indications of whether a content source has an index of annotations stored on a tier II server. The inclusion of separate and distinct tier I and tier II servers enhances the scalability of a multiple-tier hierarchical annotation system since the number (or size) of tier I servers can be changed without requiring that tier II server capacity be changed. Further, the tier I servers, because they are lightweight, can be less complex than the tier II servers. In essence, the lightweight tier I servers function as filters that control access to higher tier servers that store indexes of annotations and, thus, are more complex. In contrast, the annotation proxy of van Hoff uses computationally expensive character matching algorithms running on a single device to conduct full document searches to determine if links to annotations should be embedded in a document by an annotation proxy server. The annotation proxy servers of van Hoff are clearly different from the lightweight tier I servers of Claim 1.

As noted above, Claim 1 also recites a "tier II server for storing an index of the annotations stored on the tier III server, but not the annotations." The cited and applied reference, deVries, contains no teaching or suggestion of a tier II server let alone a tier II server for storing an index of the annotations stored on a tier III server, but not the annotations. The Office Action appears to equate deVries' index database server to the tier II server recited in Claim 1. Applicants disagree. The index database server of deVries is not a tier II server of the type recited in Claim 1. DeVries' index database is an initial query server (Col. 7, ll. 27-45), not an intermediate server located between a tier I server and a tier III server in a multi-tier hierarchical server system, as recited in Claim 1. There is no teaching or suggestion in deVries that deVries' index database server has any relation with a tier I server. Rather, the opposite is true. The tier I server of Claim 1 functions as a filter for the tier II server, i.e., the tier I requests to the tier II server. DeVries, however, teaches away from such an arrangement by specifically teaching that the index database server is a query point (Col. 7, ll. 41-49). As noted above, the deVries system is not easily scalable to handle large quantities of documents and/or annotations as is the computer system of Claim 1. In this regard, applicants point out that Claim 1, as amended, clearly recites that the tier I, tier II, and tier III servers are all separate and distinct, thereby making the overall system easily scalable.

The Office Action recognizes that van Hoff and deVries fail to teach a tier III server and suggests that Van Der Meer makes up for this failure. Applicants disagree. Van Der Meer also fails to teach a tier III server for storing data for annotations, as recited in Claim 1. Van Der Meer's presentation context server has no annotations. It is therefore clear that the presentation context server of Van Der Meer cannot be a tier III server as recited in Claim 1.

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In summary, none of the van Hoff, Van Der Meer, or deVries references discloses or suggests, alone or in combination, the computer system recited in Claim 1. Thus, applicants submit that Claim 1 and all the claims dependent therefrom (Claims 2-9) are clearly allowable.

Since Claims 2-9 include additional recitations that further distinguish them from the teachings of van Hoff, deVries, and Van Der Meer, they are also submitted to be allowable for additional reasons. For example, Claim 7 recites client software stored on a tier III server to allow a user to view a type of annotation. There is no teaching in either van Hoff, deVries, or Van Der Meer of providing client software stored on the same server that stores annotations to allow a user to view an annotation. Preparing a document for presentation, as in van Hoff, is not "client software stored on a tier III server" to allow a user to view a type of annotation. Further, the Office Action identifies no other citation that teaches, discloses, or suggests such client software. Accordingly, Claim 7 is submitted to be allowable for this reason as well.

Rejection of Claims 10-21 Under 35 U.S.C. § 103(a)

Independent Claim 10, as amended, reads as follows:

10. A scalable computerized method of posting an annotation, the method comprising:

- sending an annotation post from a client to a tier III server;
- storing a portion of the annotation post on the tier III server;
- sending a second portion of the annotation post from the tier III server to a tier II server that is separate and distinct from the tier III server;
- storing the second portion of the annotation post on the tier II server;
- sending association information from the tier II server to a tier I server that is separate and distinct from the tier II and tier III servers; and
- storing the association information on the tier I server.

Claim 10 recites a method of posting an annotation by a client on the various tiers of a multiple-tier hierarchical annotation system. As described above, none of the cited and applied references teaches such a multiple-tier computing system. Additionally, none of the cited and applied references includes any teaching or suggestion of posting an annotation from a client on the tiers of a multiple-tier hierarchical annotation system. In fact, applicants have been unable to find any teaching or suggestion of annotation posting in any of the cited and applied references. The assertions in the Office Action regarding Claim 10 merely point to requests for documents/annotations, not the posting of annotations. Posting an annotation is the reverse of what is taught by the references.

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As none of van Hoff, deVries, and Van Der Meer teaches or suggests annotation posting, it need hardly be mentioned that they also fail to teach "sending an annotation post from a client to a tier III server" as recited in Claim 10. Similarly there is no teaching or suggestion of further storing a portion of the annotation on the tier III server. The mere fact that van Hoff requests a document has no relation to an annotation post as recited in Claim 10. Further, applicants submit that it is improper to conclude that van Hoff teaches or even remotely suggests storing posted annotations from a client to a tier III server merely because van Hoff teaches a computer with stored annotations.

Likewise, the rationale for concluding that the cited and applied references teach or suggest tier II and tier I servers that perform the functions recited in Claim 10 also fail since none of the cited and applied references teaches or suggests gathering information as part of an annotation posting. Further, none of the cited and applied references teaches separate and distinct tier I, tier II, and tier III servers.

Therefore, applicants assert that the subject matter of Claim 10 taken as a whole is clearly not taught or suggested by the cited and applied references and, thus, Claim 10 is clearly in condition for allowance. Since Claims 11-21 all depend from Claim 10, Claims 11-21 are submitted to be allowable for at least the reasons noted above.

Since Claims 11-21 include additional recitations that further distinguish them from the teachings of van Hoff, deVries, and Van Der Meer, they are submitted to be allowable for additional reasons. For example, Claim 12 recites "notifying the client of a successful post to the tier III server." None of the deVries, van Hoff, or Van Der Meer references teaches, discloses, or suggests notifying a client of a successful post to a tier III server. In fact, there is no teaching of notifying the client of a successful post of an annotation to any server as far as applicants have been able to determine. Accordingly, Claim 12 is submitted to be allowable for this reason as well.

Similarly, Claim 14 recites "notifying the tier III server of a successful post to the tier II server." As none of the deVries, van Hoff, or Van Der Meer references teaches, discloses, or suggests such communications between annotation servers, clearly none of the references teaches notifying a tier III server of a successful post to a tier II server. Therefore, Claim 14 is submitted to be allowable for this reason as well.

Claim 15 recites notifying a tier II server of a successful post to a tier I server. Since, as already noted above, none of the deVries, van Hoff, or Van Der Meer references teaches a tier I server, Claim 15 is submitted to be allowable for this additional reason.

Rejection of Claims 22-24

Independent Claims 22-24, as amended, read as follows:

22. A computer-readable medium having stored thereon a "client-to-tier III server" data structure for scalable annotations, comprising:

- a first field containing data representing a context document identifier;
- a second field containing data representing a body of the annotation;
- a third field containing data representing generic properties of the annotation;
- a fourth field containing data representing type specific properties of the annotation;
- a fifth field containing data representing a URL for a tier III server for receiving and storing a portion of the post of the annotation;
- a sixth field containing data representing a URL for a tier II server for receiving and storing a portion of the post of the annotation, wherein the URL for the tier II server is distinct from the URL for the tier III server; and
- a seventh field containing data representing a URL for a tier I server for receiving and storing associations for the annotation, wherein the URL for the tier I server is distinct from the URLs for the tier II and tier III servers.

23. A computer-readable medium having stored thereon a "tier III server-to-tier II server" data structure for scalable annotations, comprising:

- a first field containing data representing a context document identifier;
- a second field containing data representing generic properties of the annotation;
- a third field containing data representing a URL for a tier III server for receiving and storing a portion of the post of the annotation;
- a fourth field containing data representing an identifier for the portion of the post of the annotation stored on the tier III server;
- a fifth field containing data representing a URL for a tier II server for receiving and storing a portion of the post of the annotation, wherein the URL for the tier II server is distinct from the URL for the tier III server; and
- a sixth field containing data representing a URL for a tier I server for receiving and storing associations for the annotation, wherein the URL for the tier I server is distinct from the URLs for the tier II and tier III servers.

24. A computer-readable medium having stored thereon a "tier II server-to-tier I" server data structure for scalable annotations, comprising:

a first field containing data representing a context document identifier;

a second field containing data representing an indexing identifier of the annotation;

a third field containing data representing a URL for a tier II server for indexing the annotation; and

a fourth field containing data representing a URL for a tier I server for receiving and storing associations for the annotation, wherein the URL for the tier I server is distinct from the URL for the tier II server.

As already discussed above with regard to Claim 1 and Claim 10, none of the deVries, van Hoff, or Van Der Meer references teaches, discloses, or suggests a multiple-tier hierarchical annotation server system with tier I, II, and III servers, let alone such a system wherein the URLs of the tier I, II, and III servers are distinct from one another. As the deVries, van Hoff, or Van Der Meer references are not directed to a multiple-tier annotation system that is readily scalable in order to handle changes in the number of users, it is apparent that none of the deVries, van Hoff, or Van Der Meer references renders the data structures recited in these computer-readable media claims obvious under 35 U.S.C. § 103(a). Accordingly, Claims 22-24 are submitted to be allowable.

Claims 22-24 are submitted to be allowable for at least one additional reason. More specifically, Claims 22-24 recite data structures that relate to the posting of annotations on a multiple-tier annotation system. As none of the cited and applied references teaches or suggests such annotation posting, as discussed above with regard to Claim 10, none of the cited and applied references teaches or even remotely suggests the data structures (and their respective data fields) stored on computer-readable media as recited in Claims 22-24. For this reason as well, Claims 22-24 are additionally submitted to be allowable.

Rejection of Claims 25-28 Under 35 U.S.C. § 103(a)

Independent Claim 25, as amended, reads as follows:

25. A scalable computerized method for managing annotations, the method comprising:

storing within a tier I server reference to a tier II server storing an index that identifies a tier III server that stores an annotation associated with a content source;

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storing within a tier II server that is separate and distinct from the tier I server an index that identifies the tier III server that stores an annotation associated with a content source;

storing within a tier III server that is separate and distinct from the tier I and tier II servers the annotation associated with a content source;

receiving by the tier I server from a client a document identifier that identifies the content source; and

providing a first response to the client from the tier I server, wherein the first response comprises one or more associations for the document identifier and a reference to a tier II server for each of the associations.

As already discussed above with regard to Claim 1 and Claim 10, none of the deVries, van Hoff, or Van Der Meer references teaches, discloses, or suggests a multiple-tier hierarchical annotation server system with separate and distinct tier I, II and III servers, let alone a plurality of associations with references to a tier II server for each association. Van Hoff's annotations have no need of any associations, as recited in Claim 25, as van Hoff's annotations are not associated with content sources. As discussed above, van Hoff's annotations are matched to character groups and are inserted into documents based on character matching. They are not based on any association with a content source or a document identifier as recited in Claim 25. Clearly none of the deVries, van Hoff, or Van Der Meer references, alone or in combination, renders Claim 25 obvious. Therefore, applicants assert that Claim 25 is allowable. Since Claims 26-28 all depend from Claim 25, Claims 26-28 are submitted to be allowable for at least the reasons noted above.

Claims 26-28 include additional recitations that further distinguish them from the teaching of deVries, van Hoff, and Van Der Meer and, thus, are submitted to be allowable for additional reasons. For example, Claim 26 recites "providing a second response to the client from the tier II server." None of the deVries, van Hoff, or Van Der Meer references teaches providing a second response to the client, let alone a second response that "comprises a header for each of the annotations associated with the document identifier and the reference to the tier III server for each annotation." The second response improves the efficiency of the present invention. A first response is received from a tier I server which gives a simple and quick response indicating whether annotations exist, while the second response from the tier II server gives further information and an identification of a tier III server that stores the associated annotation. Such behavior and capabilities are not taught, disclosed, or suggested by the deVries, van Hoff, or Van Der Meer references. Accordingly, Claim 26 is submitted to be allowable for this reason as well.

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Claim 27 includes the recitation of "providing a third response to the client from the tier III server." Since none of the deVries, van Hoff, or Van Der Meer references teaches a third response, Claim 27 is submitted to be allowable for this reason as well.

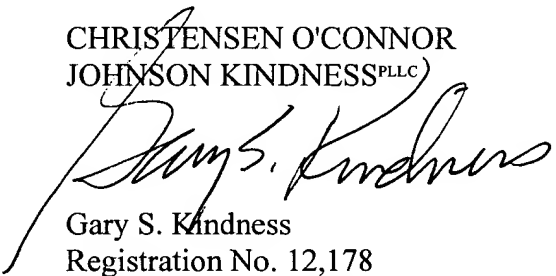
CONCLUSION

In view of the foregoing remarks, applicants submit that the present application is now in condition for allowance. The Office Action is clearly relying on impermissible hindsight in the rejection of Claims 1-28. In this regard, the "Response to Arguments" section on pages 19-23 of the Office Action have been carefully reviewed. For reasons set forth above applicants submit that the points raised in the "Response to Arguments" section are incorrect, have been rendered moot, or are based on hindsight reasoning and, thus, are invalid.

Reconsideration and reexamination of this application, allowance of rejected Claims 1-28, and passage of this application to issue at an early date is respectfully solicited. If the Examiner has any questions or comments concerning this application, the Examiner is invited to contact the applicants' undersigned attorney at the number below.

Respectfully submitted,

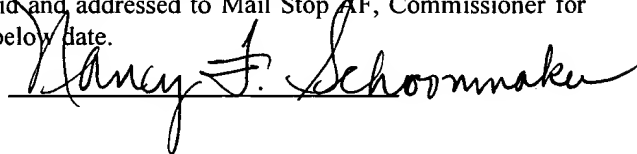
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I hereby certify that this correspondence is being deposited with the U.S. Postal Service in a sealed envelope as first class mail with postage thereon fully prepaid and addressed to Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on the below date.

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